Claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, "A backlight unit in a liquid crystal display including a light-guiding plate, a reflection plate, ...a diffusion plate, ...the liquid crystal display following a field sequence, wherein a plurality of lamps are arranged such that LED chips realizing R, G, and B colors are built in the respective lamps." The cited references including Kawano et al. and Satoh, either singly or in combination, do not teach or suggest at least these features of the claimed invention. Accordingly, Applicants respectfully submit that claim 1 and claims 2-4, which depend from claim 1, are allowable over the cited references.

Claim 5 is allowable over the cited references in that claim 5 recites a combination of elements including, for example, "A backlight unit in a liquid crystal display including a light-guiding plate, a reflection plate, ...a diffusion plate, ...the liquid crystal display following a field sequence, wherein a plurality of chips are arranged such that LED chips realizing R, G, and B colors are built in the respective chips." The cited references including Kawano et al. and Satoh, either singly or in combination, do not teach or suggest at least these features of the claimed invention. Accordingly, Applicants respectfully submit that claim 5 and claims 6-8, which depend from claim 5, are allowable over the cited references.

Claim 9 is allowable over the cited references in that claim 9 recites a combination of elements including, for example, "A backlight unit in a liquid crystal display including a light-guiding plate, a reflection plate, and a diffusion plate, ...the liquid crystal display following a field sequence, ...a plurality of lamps arranged in a plurality of rows; and three LED chips built in each of the lamps, the three LED chips realizing R, G, and B colors respectively, wherein the lamps are turned on/off according to a sequence of a R chip, a G chip, and a B chip in each of the rows." The cited references including Kawano et al. and Satoh, either singly or in combination, do not teach or suggest at least these features of the

claimed invention. Accordingly, Applicants respectfully submit that claim 9 is allowable over the cited references.

Claim 10 is allowable over the cited references in that claim 10 recites a combination of elements including, for example, "A backlight unit in a liquid crystal display including a light-guiding plate, a reflection plate, and a diffusion plate, ...the liquid crystal display following a field sequence, ...a plurality of chips arranged in a plurality of rows; and three LED chips built in each of unit chips, the three LED chips realizing R, G, and B colors respectively, wherein the unit chips are turned on/off according to a sequence of a R chip, a G chip, and a B chip in each of the rows." The cited references including Kawano et al. and Satoh, either singly or in combination, do not teach or suggest at least this feature of the claimed invention. Accordingly, Applicants respectfully submit that claim 10 is allowable over the cited references.

The Examiner cites Kawano et al. as disclosing "a light guiding plate (22), a reflection plate (23), and a diffusion plate (12), a backlight unit using LED (2a) as a back light lamp...". Further, the Examiner asserts Satoh teaches "that it is known to modify a backlight liquid crystal display with LED chips containing R, G, and B colors as a set", and concludes "It would have been obvious to... modify backlight of [Kawano et al.] to utilize for a liquid crystal display, as taught by [Satoh] in order to illuminate LCD using LEDs containing R, G, and B colors (white LED)." Office Action at 2.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must, at least, be taught or suggested by the prior art. See M.P.E.P. § 2143.03.

Accordingly, and contrary to Examiner's citation of Kawano et al., Applicant respectfully submits Kawano et al. does not teach or suggest, for example, at least the aforementioned elements recited in at least claims 1, 5, 9, and 10.

For example, Applicant respectfully submits Kawano et al. teaches at column 1, lines 5-6 "The present invention relates to a light emitting display having an LED lamp as a light source." At column 7, lines 32-35, Kawano et al. teaches "Its display body 22 is made of a sheet of a milk-white color, light diffusing resin material which comprises a transparent resin doped with a light diffusing agent 12..." at column 5, lines 35-40, "...the transparent resin provided as the base component of the light diffusion material of the display body... may be selected from acrylic..., epoxy..., urea..., polycarbonate..., and other non-opaque resins" and lines at 43-50, "The light diffusing agent added to the transparent resin... may be selected from powder forms of silicon oxide, aluminum oxide, titanium oxide, ...barium titanate... [or] ...any other transparent resin... may be used in the form of small particles."

Applicant respectfully submits the neither the "display body 22" nor the "light diffusing agent 12" disclosed by Kawano et al. could be reasonably construed to mean "light guiding plate (22)" or "diffusion plate (12)" as asserted by the Examiner. To do so would go against the requirements as set forth in M.P.E.P. § 2111, stating that during patent examination, pending claims must be given their broadest reasonable interpretation "...consistent with the interpretation that those skilled in the art would reach".

Accordingly, Applicant respectfully submits one of ordinary skill will readily recognize that a "light-guiding plate", such as that claimed in the present invention, is not to be equated with "a light diffusing resin material which comprises a transparent resin doped with light diffusing agent" as disclosed by Kawano et al.

Further, Applicant respectfully submits one of ordinary skill in the art will readily recognize that a "diffusion plate", such as that claimed in the present invention, is not to be equated with "a light diffusing agent...[provided as a material] selected from powder forms

of silicon oxide, aluminum oxide... [or] any other transparent resin... used in the form of small particles."

Still further, Applicant respectfully submits one of ordinary skill in the art will readily recognize that a "plate", such as the "diffusion plate" claimed in the present invention, is not to be equated to "powder forms of silicon oxide, aluminum oxide... [or] any other transparent resin... used in the form of small particles."

Even assuming *arguendo* that a "light-guiding" plate could be equated to a "diffusing resin material including a transparent resin doped with light diffusing agent" and that "plate" could be equated with "powder (or material in the form of small particles) used in doping", a *prima facie* case of obviousness has not been established by the cited combination of references of Kawano et al. in view of Satoh because there must also be, at least, some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

For example, Applicant respectfully submits no proper suggestion or motivation exists in the combination of Kawano et al. in view of Satoh that would lead one of ordinary skill in the art to modify Kawano et al. using Satoh and arrive at the presently claimed invention. At paragraph 2 on page 2 of the Office Action mailed on March 12, 2003, the Examiner states "[i]t would have been obvious to... modify the backlight of Kawano et al. to utilize for a liquid crystal display, as taught by Satoh in order to illuminate LCD using LEDs..."

Applicants respectfully submit however, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. Moreover, even if the references relied

upon teach that all aspects of the claimed invention were individually known in the art, a *prima facie* case of obviousness cannot be made without some objective reason to combine the teachings of the references. See M.P.E.P. § 2143.01.

In the presently cited combination of Kawano et al. in view of Satoh, Applicant respectfully submits there is no objective reason, nor teaching of desirability in the cited references, that would motivate one of ordinary skill in the art to modify Kawano et al. by introducing the LCD of Satoh to the LEDs of Kawano et al. Such combination is, however, suggested only by the claimed invention which is considered impermissible hindsight reconstruction.

In the "Response to Arguments" section of the Office Action mailed on March 12, 2003, and in response to the Applicant's arguments that there is no suggestion combine the references, the Examiner states "...LED chips containing R, G, & B colors are built in the respective lamp may be utilized to teaching of Kawano et al. is obvious because functionality of both light-guiding plate of Satoh and diffusing plate of Kawano et al. are similar in sense that mentioned plate diffuses/distributes light to emit a display. 'Light-guiding' could be equated to 'diffusing plate', therefore combining or modifying the teachings of the prior art is proper."

In view of the Examiner's statement immediately above, it appears as though the Examiner is attempting to modify the device of Satoh by introducing the LED of Kawano et al. Accordingly, it appears as though the Examiner is attempting to arrive at the claimed invention via the combination of Satoh in view of Kawano et al. Applicant respectfully submits, however, that the combination of Satoh in view of Kawano et al. is not formally applied in the outstanding Office Action, nor has such a combination ever been formally applied to the claims of the present invention. Therefore, Applicant respectfully submits the

rationale provided in the aforementioned "Response to Arguments" section does not support the combination of Kawano et al. in view of Satoh as currently applied to the claims of the present invention.

In rejecting claims 2 and 6, the Examiner states "It is inherent that LED lamps has a luminescent area over 100 degrees."

Applicant respectfully submits that it is not "inherent" that the LED lamps of Kawano et al. in view of Satoh have a luminescent area over 100°. It appears that the Examiner attempts to cure the deficiencies of Kawano et al. in view of Satoh by relying on inherency. Applicant respectfully directs the Examiner to M.P.E.P. § 2112 disclosing "in relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Contrary to these teachings, the Examiner has provided no basis in fact or technical reasoning supporting the determination that at least the combination of elements recited above as recited in the aforementioned claims is an inherent element of Kawano et al. or Satoh, either singly or in combination.

In the "Response to Arguments" section of the outstanding Office Action, the Examiner states "Commonly used LED light source most definitely cares a luminescent area over 100 degrees, if this is not inherent then it is obvious..."

By the Examiner's statement above, Applicant respectfully submits no basis in fact and/or technical reasoning capable of reasonably supporting a finding of inherency has been made and further, in stating "if this is not inherent then it is obvious" it appears that the Examiner is relying on Official Notice. The Examiner may take Official Notice of facts outside of the record that are capable of instant and unquestionable demonstration as being "well-known" in the art. *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA

1970). As set forth in M.P.E.P. § 2144.03, if an applicant traverses an assertion made by an Examiner while taking Official Notice, the Examiner should cite a reference in support of their assertion. Accordingly, Applicant seasonably traverses the use of Official Notice and respectfully, requests the Examiner to provide a reference to support their assertions or an affidavit.

Lastly, within the "Response to Arguments" section of the outstanding Office Action, the Examiner asserts non-obviousness has been shown by attacking the cited references individually where the "rejections are based on combinations of references."

Applicant respectfully submits, however, that the non-obviousness has not been shown by attacking combined references individually. Rather, non-obviousness has been shown (1) by attacking the references individually where the references were individually applied against the claims and (2) by attacking the combination of references where the combination of references were applied to the claims.

Applicant believes the application is in condition for allowance and early, favorable action is respectfully solicited. Should the Examiner deem that a telephone conference would further the prosecution of this application, the Examiner is invited to call the undersigned attorney at (202) 496-7500.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136. Please credit any overpayment to deposit Account No. 50-0911.

Respectfully submitted,

MCKENNA LONG & ALDRIDGE, LLP

Date: June 12, 2003

By _____

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